Mathematical Notes 2010 vol.87 N5-6, pages 828-833

On holomorphic motions of n-symmetric functions

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Abstract

We generalize a problem examined by Duren on the univalence of a family of n-symmetric functions generated by integrals of functions of the form exp(λζn). Our approach is based on the use of the inverse Faber transform, of the Martio-Sarvas univalence criterion, and of the λ-lemma of Ma né, Sad, and Sullivan. We also put forward a conjecture on the univalence of a family of n-symmetric functions, which is a weakened form of the Danikas-Ruscheweyh conjecture on the univalence of an integral transform of holomorphic functions. © 2010 Pleiades Publishing, Ltd.

http://dx.doi.org/10.1134/S0001434610050226

Keywords

Danikas-Ruscheweyh conjecture, Domain with quasiconformal boundary, Holomorphic function, Inverse Faber transform, n-symmetric function